

4. Troubleshooting

4.1. Checkpoints by Error Mode

4.1.1. First Checklist for Troubleshooting

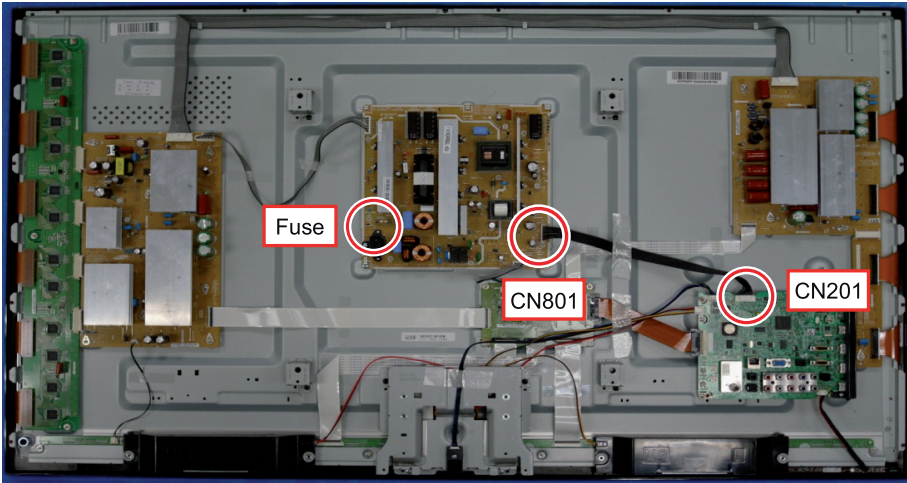
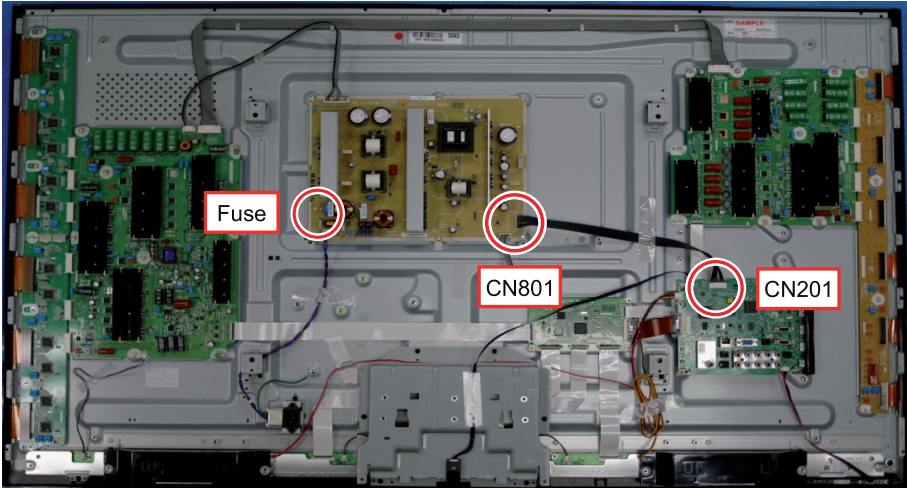
- 1) Check the various cable connections first.
 - Check to see if there is a burnt or damaged cable.
 - Check to see if there is a disconnected or loose cable connection.
 - Check to see if the cables are connected according to the connection diagram.
- 2) Check the power input to the Main Board.
- 3) How to distinguish if the problem is caused by Main board or Logic Board.
 - No Video : If the problem is No Video but Logic Board is on and Indication LED is blinking repeatedly and faster than normal booting, replace the T-Con board.
 - Distorted Picture : Check the inner patterns.

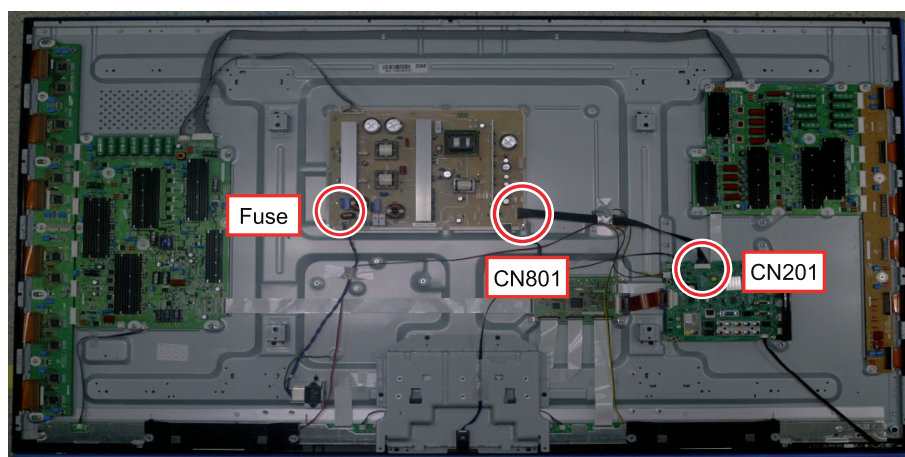
Inner pattern	Picture	Problem
OK	NG	Main board
NG	NG	Main or LVDS cable or Logic Board or Panel.

- How to check inner pattern?
 - a. Entering Factory mode.
 - b. Move to SVC menu.
 - c. Move to Test Pattern.
 - d. Check inner patterns.

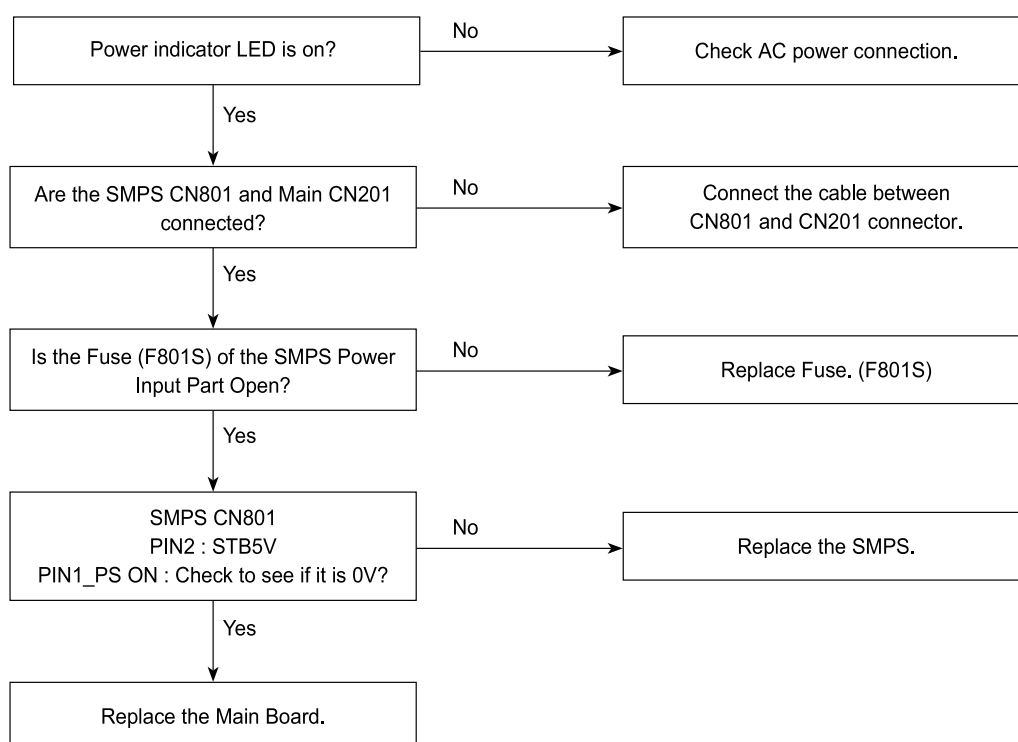
4.1.2. Checkpoints by Error Mode

■ No Power

Symptom	<ul style="list-style-type: none">• The LEDs on the front panel do not work when connecting the power cord.• The SMPS relay does not work when connecting the power cord.• The unit appears to be dead.
Major Checklist	<p>The SMPS relay or the LEDs on the front panel does not work when connecting the power cord if the cables are improperly connected or the Main Board or SMPS is not functioning. In this case, check the following:</p> <ul style="list-style-type: none">• Check the internal cable connection status inside the unit.• Check the fuses of each part.• Check the output voltages of the SMPS.• Replace the Main Board.
Diagnostics	<div><p><51" PDP></p><p><59" PDP></p></div>

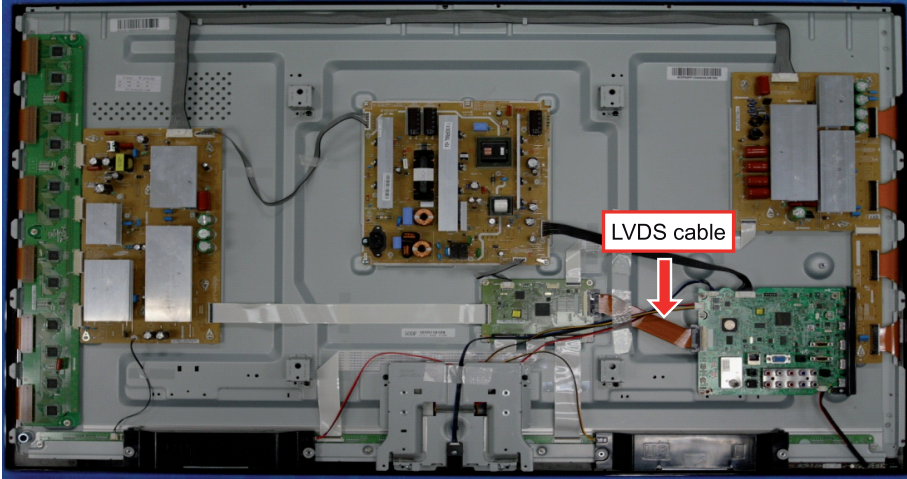
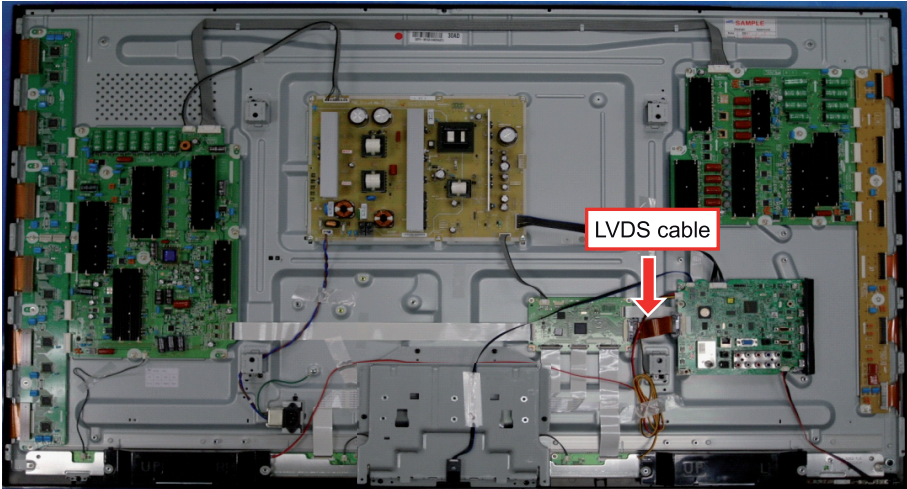
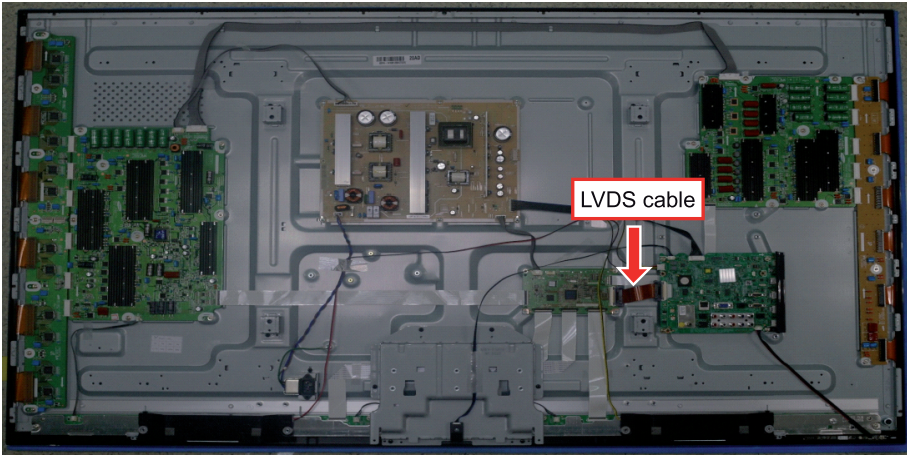


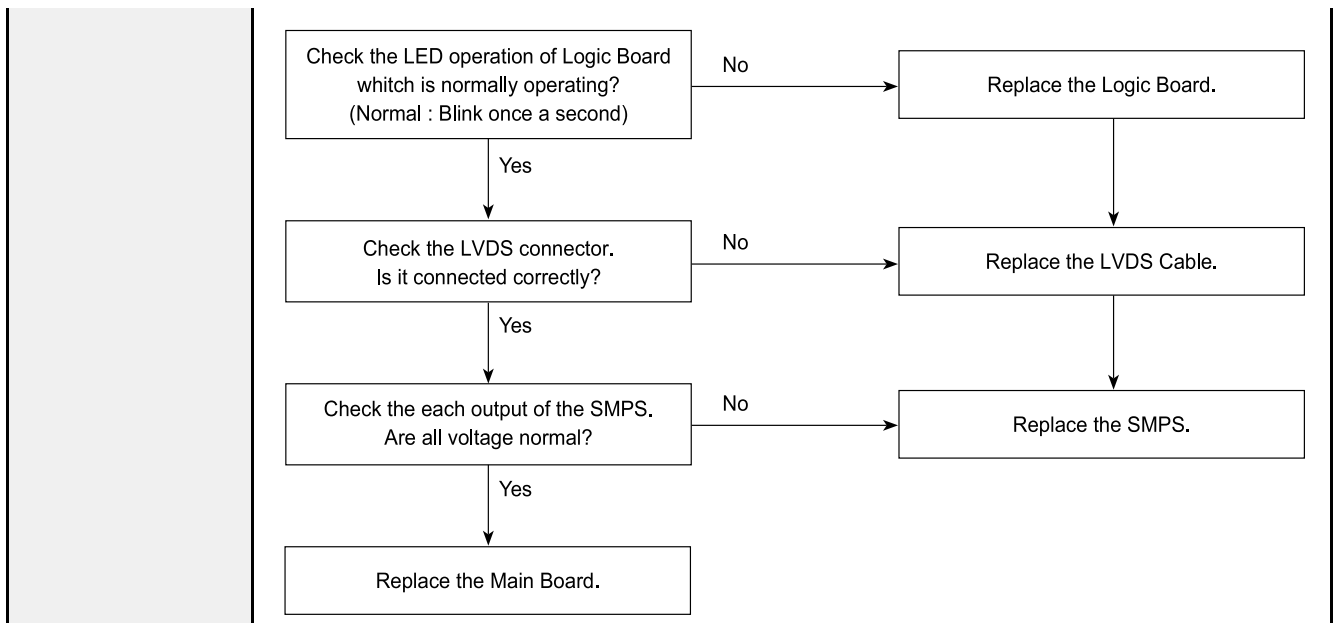
<64" PDP>

**CAUTION**

Make sure to disconnect the power before working on the SMPS board.

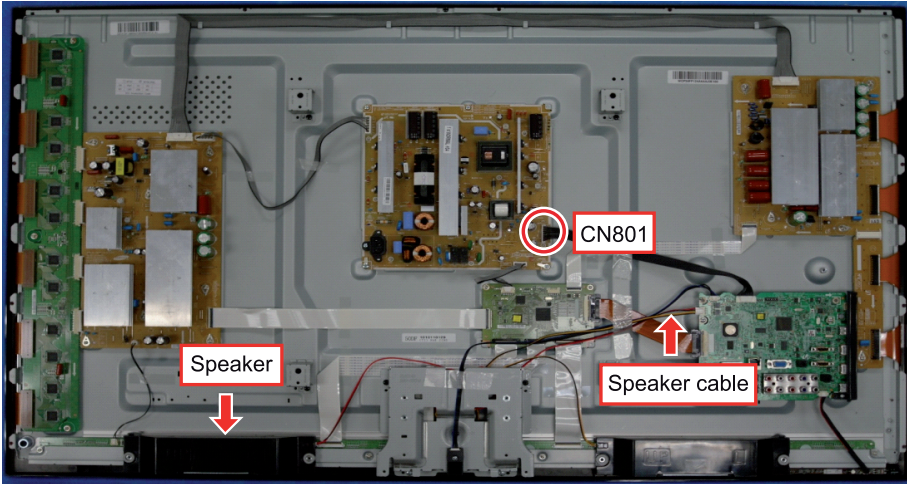
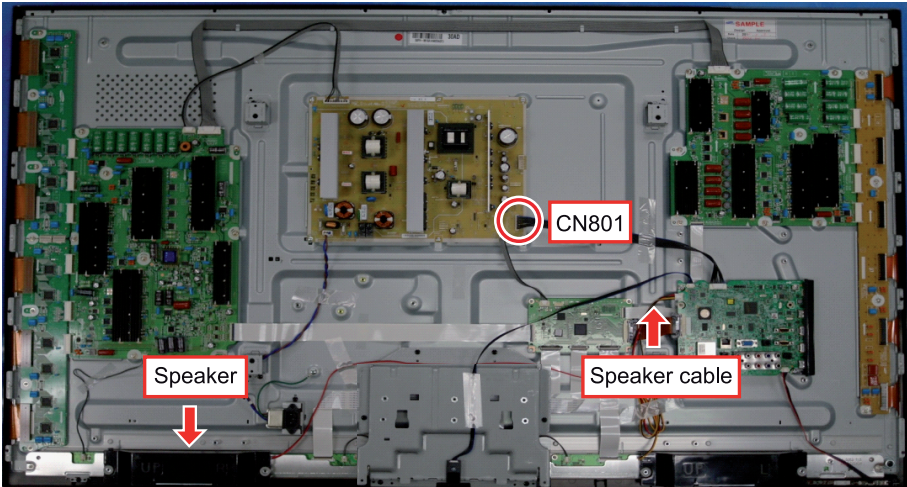
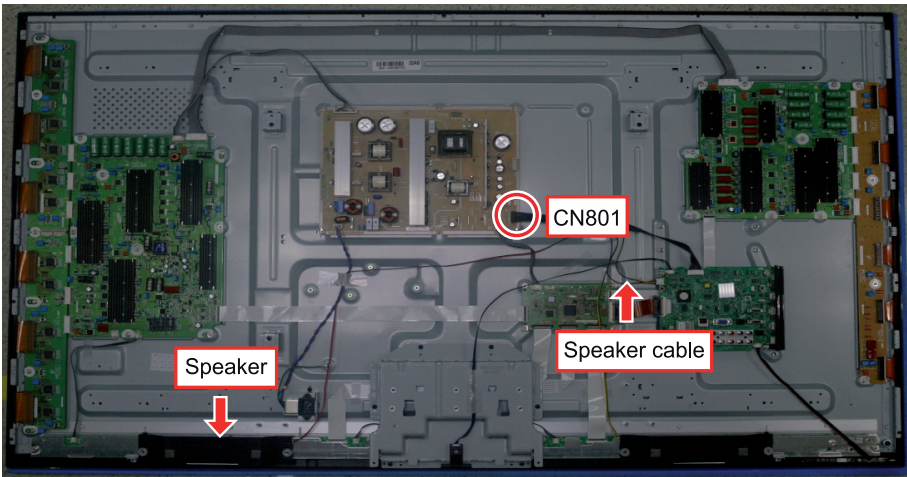
■ No Video

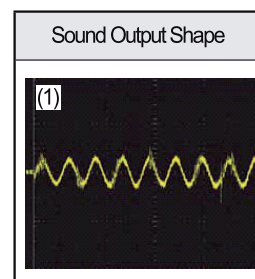
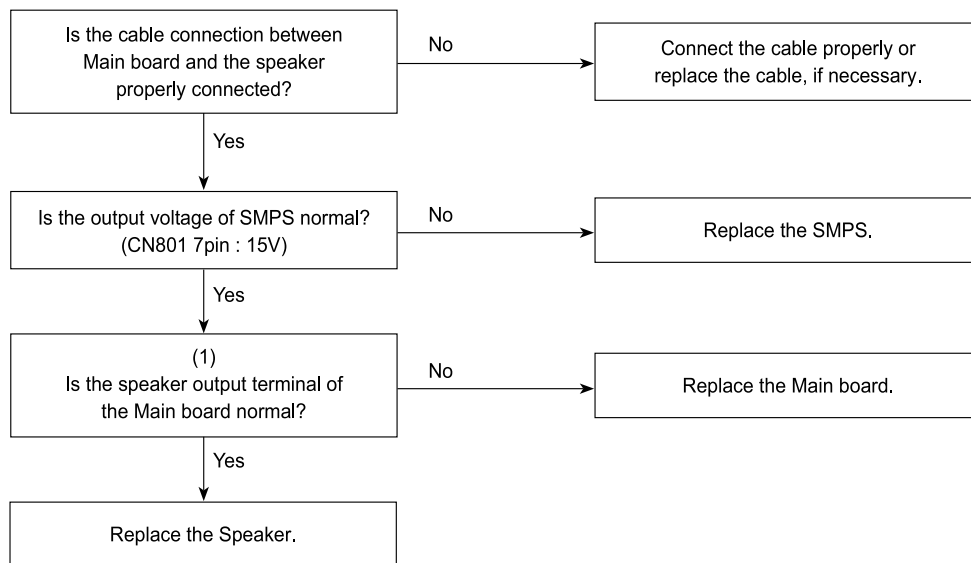
Symptom	<ul style="list-style-type: none">• Audio is normal but no picture is displayed on the screen.
Major Checklist	<ul style="list-style-type: none">• The output voltage of the Main SMPS.• This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected.
Diagnostics	<div><p><51" PDP></p><p><59" PDP></p><p><64" PDP></p></div>

**CAUTION**

Make sure to disconnect the power before working on the SMPS board.



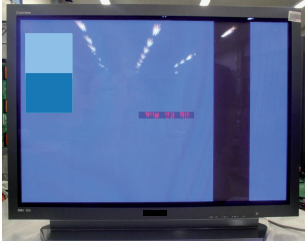


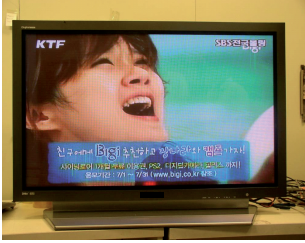
No Sound



Symptom	<ul style="list-style-type: none">• Video is normal but there is no sound.
Major Checklist	<ul style="list-style-type: none">• When the speaker connectors are disconnected or damaged.• When the sound processing part of the Main Board is not functioning.• Speaker defect.• SMPS not supplying voltage to the main board.
Diagnostics	<div><p><51" PDP></p><p><59" PDP></p><p><64" PDP></p></div>

**CAUTION**

Make sure to disconnect the power before working on the IP board.

4.1.3. Faults and Corrective Actions

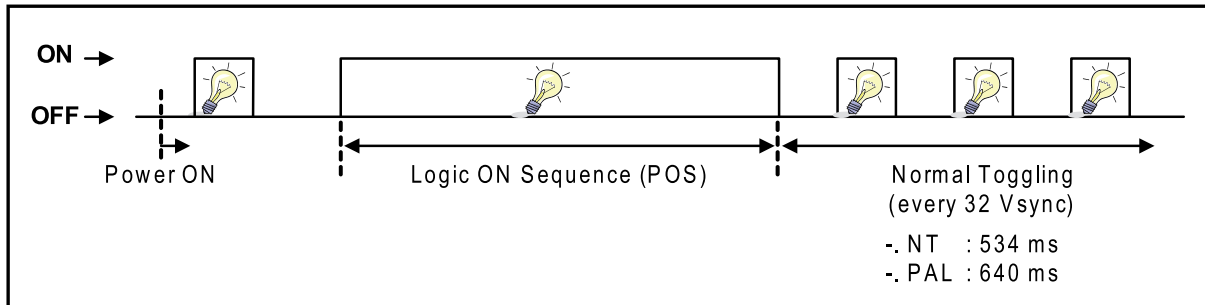
Symptom	Related Image	Causes and Countermeasures
A blank vertical cell (block) appears on the screen.		<ul style="list-style-type: none"> Address buffer defect <ul style="list-style-type: none"> Replace the corresponding upper/lower buffers. (E, F or G) COF defect (burnt) <ul style="list-style-type: none"> Replace the module.
A green screen appears when the TV is turned on.		<ul style="list-style-type: none"> The Scale is not resetting. <ul style="list-style-type: none"> Replace the Main board.
The OSD box appears but there is no text.		<ul style="list-style-type: none"> Incorrect program version. <ul style="list-style-type: none"> Check the version of each program. Replace the Main board.
A blank upper (or lower) block appears on the screen.		<ul style="list-style-type: none"> Upper/Lower Y Buffer defect <ul style="list-style-type: none"> Replace the corresponding upper/ lower buffers.
Either the main or sub picture does not appear.		<ul style="list-style-type: none"> Replace the Main board.
A vertical green line appears on the screen.		<ul style="list-style-type: none"> The SMPS voltage is incorrect. <ul style="list-style-type: none"> Adjust the SMPS voltage according to the voltage printed on the module label.

Symptom	Related Image	Causes and Countermeasures
Dim screen (blurred in red)		<ul style="list-style-type: none"> X-Main board defect Replace the X-Main board.
A blank screen appears.		<ul style="list-style-type: none"> Replace the Y-Main board.

4.1.4. Operating Logic LED

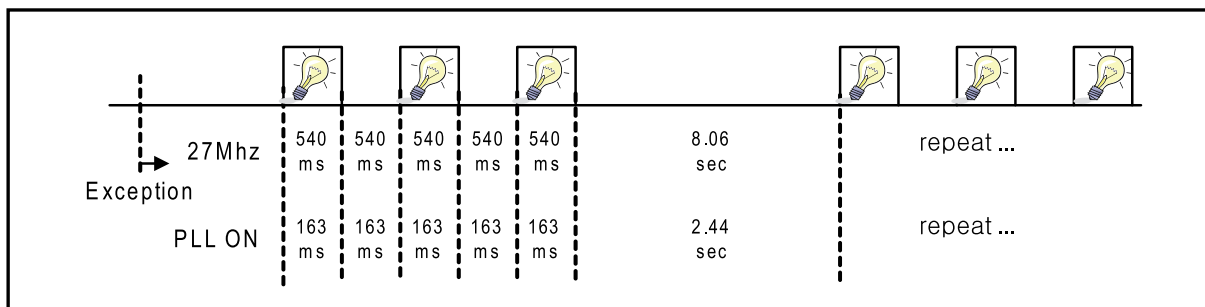
■ Normal

- LED ON/OFF for 0.5s



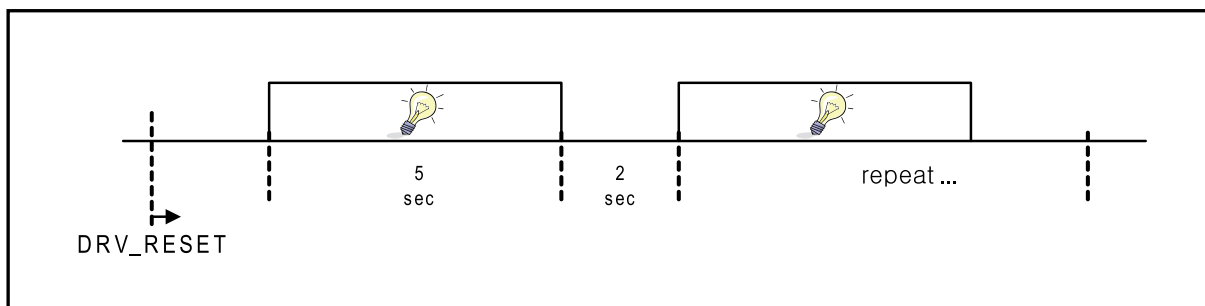
■ Abnormal

- LED ON/OFF three times for 8.1s



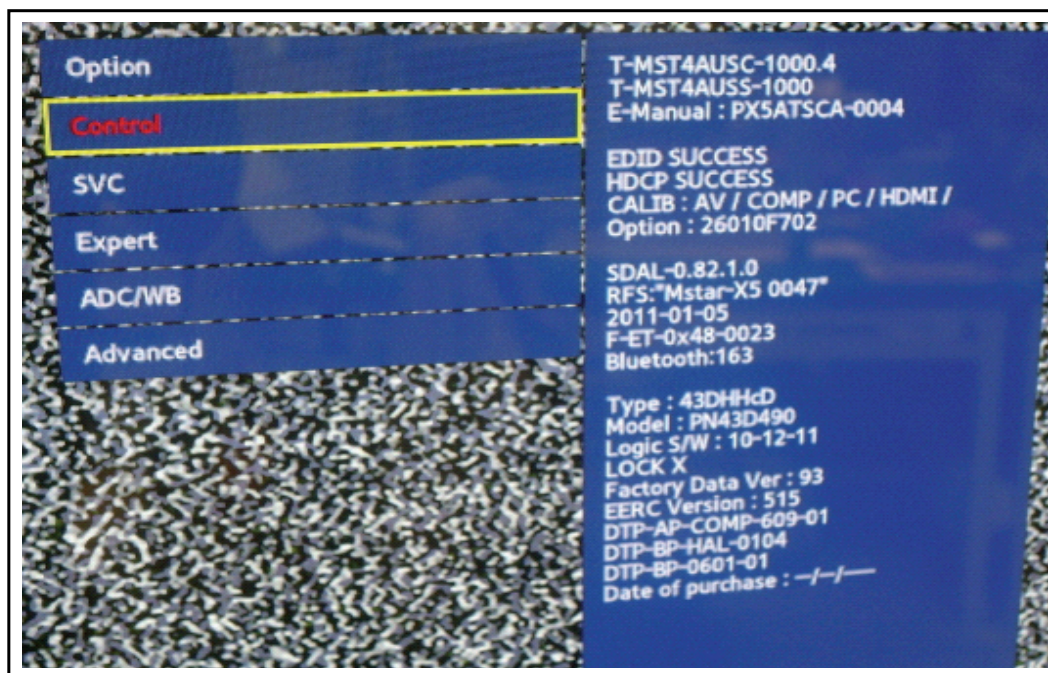
■ DRV_RESET

- LED ON for 5s and LED OFF for 2s

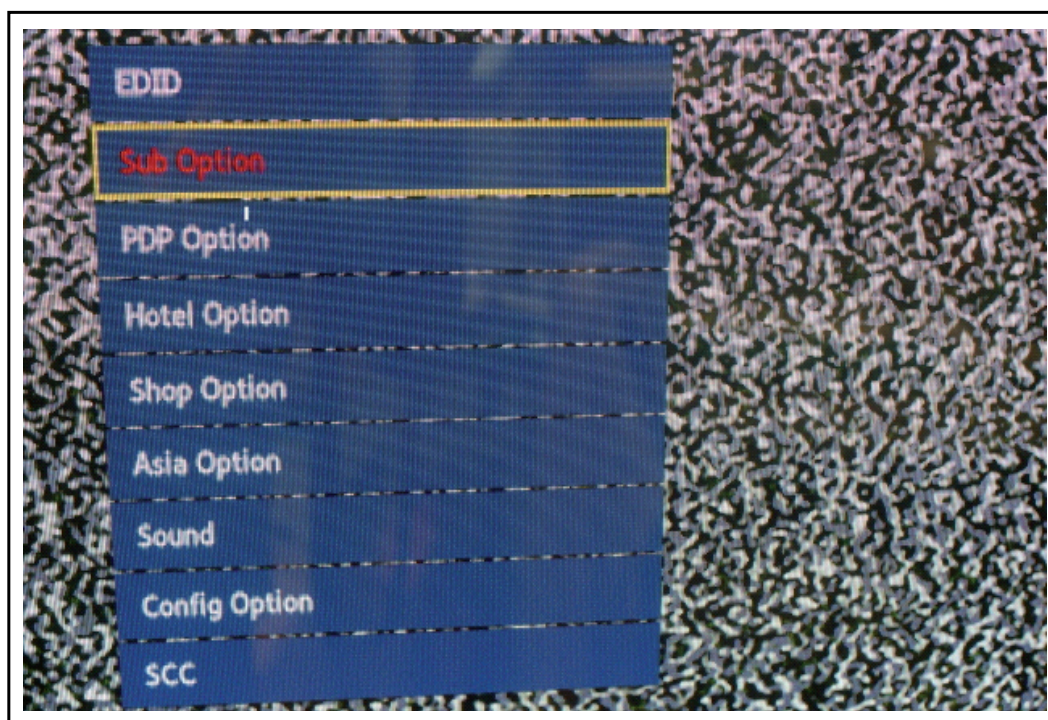


4.1.5. Adjust Function Key Sensitivity

- 1) Select 'Factory'



- 2) Select 'Control'



4. Troubleshooting

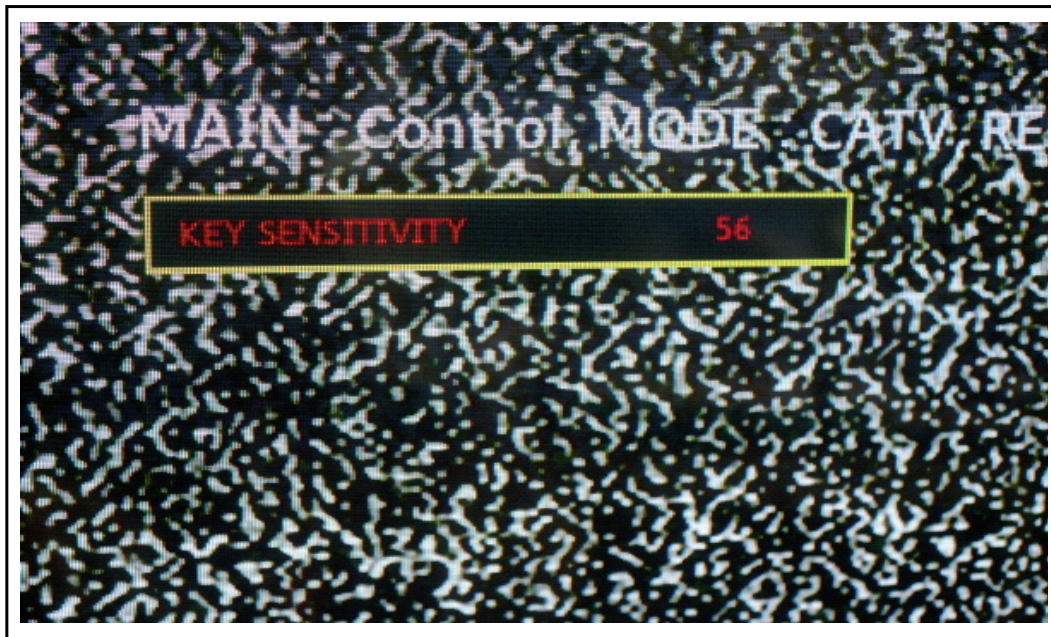
3) Select 'Sub Option'

MAIN / Control / MODE / CATV / RES / NO SIGNAL			
RF Mute Time	600ms	Info Link Country	None
RS-232 Jack	UART	TTX List	---
Watchdog	ON	TTX Group	---
WD Count	0	24Px4 Support	OFF
Dimm Type	---	Power Indicator Support	OFF
Logo Format	PDP	ID Wise Support	OFF
Language_Arabic	US	Data Service Support	OFF
TOOLS Support	32	OTA Duration Test	OFF
LNA Support	0	Alternate Del	OFF
MediaPlay DB	On with SMB	OTN Server Type	operating
MediaPlay Movie	ChapterInMedi	OTN Test Server	OFF
MediaPlay DLNA	OFF	OTN Support	OFF
MediaPlay Playlist	OFF	OTN Reset	OFF
NETWORK Support	Not Support	OTN Duration	OFF
Info Link Server Type	development	OTN Full Test	OFF
IIC Bus Stop	OFF	Visual Test	Disable
Emergency Log Copy		Checksum	0x0000
View Log		ColorSpace Support	RGB Type
Gemstar On/Off	OFF	WSS Support	OFF
PVR Support	OFF	CI Support	OFF
Eeprom Reset		Spread Spectrum	
DDR Margin		H.264 Margin	8
MPEG Margin	1000	MPEG Margin	1000
Tuner Margin	10	SST	
SST_Th		2nd mips	ON
2nd mips count	0	Region	USA
PrnP Language	ENG_US	PC Auto Ident	Enable
OTP Lock	Failure	Auto Power	MEMORY
KEY SENSITIVITY	56	FANET	OFF
OTA Support	OFF	FKP Down	OFF
WIFI REGION	Error		

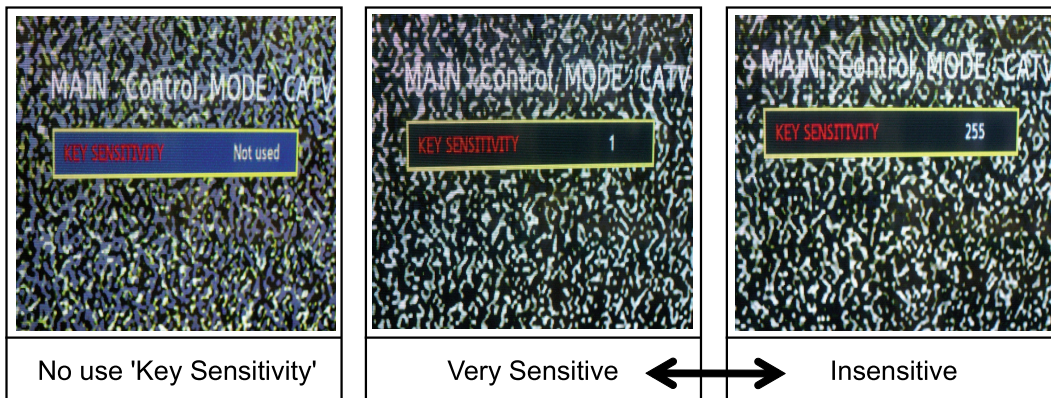
4) Select 'Key Sensitivity'

WSS Support	OFF	PC Auto Ident	Enable
PVR Support	OFF	OTP Lock	Failure
CI Support	OFF	Auto Power	MEMORY
Eeprom Reset		KEY SENSITIVITY	56
Spread Spectrum		FANET	OFF
DDR Margin		OTA Support	OFF
H.264 Margin	8	FKP Down	
MPEG Margin	1000	WIFI REGION	Error

- 5) Default value (PD490=56, PD550=32)

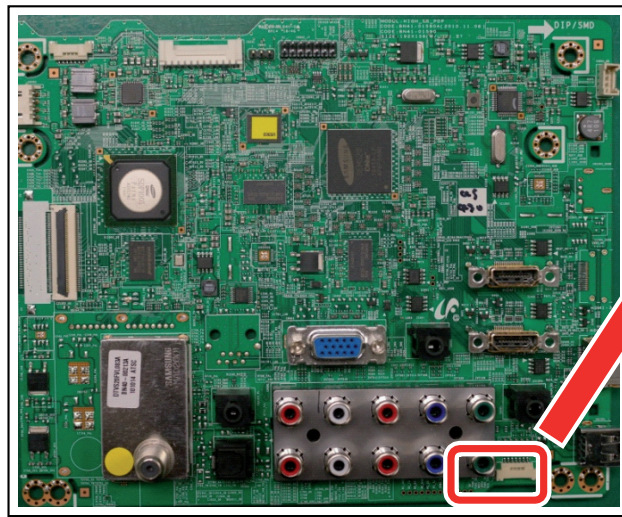


- 6) Adjust The Value of Key Sensitivity



4.1.6. Function Assy Pin Map

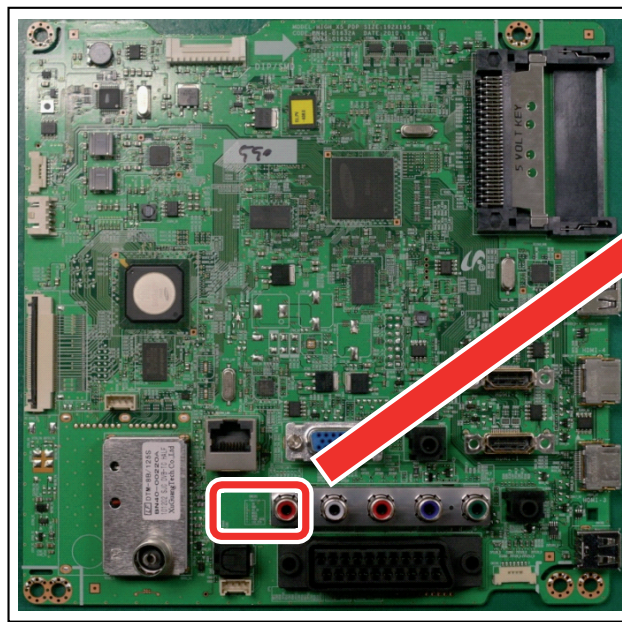
■ US Main Board



The image shows the US Main Board with a red box highlighting the CN1201 connector. An inset image shows a close-up of the CN1201 connector with a red box highlighting the pin labels: 1. IR, 2. GND, 3. A3.3V, 4. SCL, 5. SDA, 6. FUNC_INTR, 7. LED_STB.

CN1201 Pinmap	1. IR
	2. GND
	3. A3.3V
	4. SCL
	5. SDA
	6. FUNC_INTR
	7. LED_STB

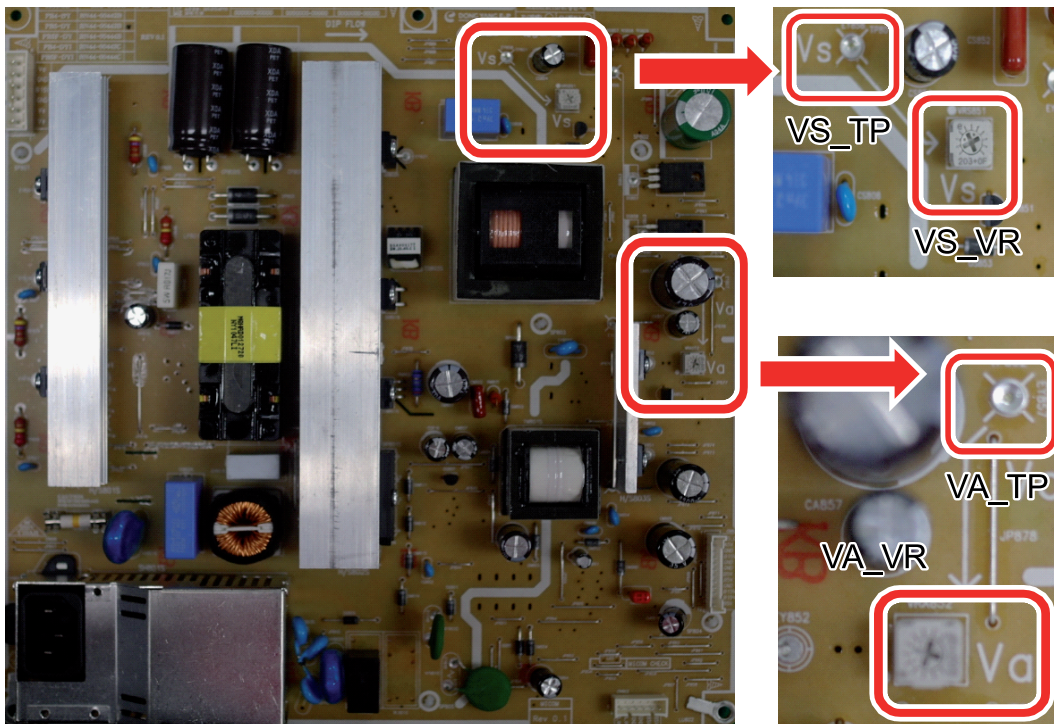
■ EU Main Board



The image shows the EU Main Board with a red box highlighting the CN1201 connector. An inset image shows a close-up of the CN1201 connector with a red box highlighting the pin labels: 1. IR, 2. GND, 3. A3.3V, 4. SCL, 5. SDA, 6. FUNC_INTR, 7. LED_STB.

CN1201 Pinmap	1. IR
	2. GND
	3. A3.3V
	4. SCL
	5. SDA
	6. FUNC_INTR
	7. LED_STB

4.1.7. Adjust SMPS Voltage when change SMPS

**TIP**

- T.P : Test Point
- V.R : Variable Resistor

4.2. Factory Mode Adjustments

4.2.1. Entering Factory Mode

To enter 'Service Mode' Press the remote-control keys in this sequence.

- If you do not have Factory remote-control.



- If you have Factory remote-control.



- If you don't have Factory remote control, can't control some menu.

Option
Control
SVC
Expert
ADC / WB
Advanced
T-MST4xxxx-1000.4
T-MST4xxxx-1000
E-Manual: PX5xxxxx-0004
EDID SUCCESS
HDCP SUCCESS
CALIB : AV O COMP O PC O HMDI O
Option :26020F702
SDAL-0.82.1.0
RFS : "Mstar-X5 0047"
2011-xx-xx
F-ET-0x48-0023
Bluetooth:xxx
Type : 51DFHHcD
Model : Px51D550
Logic S/W:xx-xx-xx
MAC SUCCESS
LOCD X
Factory Data Ver : 93
EERC Version : 515
DTP-AP-COMP-609-01
DTP-BP-HAL-0104
DTP-BP-0601-01
Date of purchase : mm/dd/yyyy

4.2.2. Factory Data

■ Option

Item	Data	Remark
Factory Reset	-	
Type	51DFHcD	
Local Set	xx	
Model	PD550	
Tuner	PD551	
Ch table	PD552	
Front Color	PD553	

■ Control

Menu	Item		Data	Remark
EDID	EDID ON/OFF		ON	
	EDID WRITE ALL		Success	
	EDID WRITE PC		Success	
	EDID WRITE HDMI		...	
	EDID WRITE HDMI1		Success	
	EDID WRITE HDMI2		Success	
	EDID WRITE HDMI3		Success	
	EDID WRITE HDMI4		Success	
	HDMI EDID Ver		HDMI 1.2	
	HDMI EDID Port		NONE	
	EDID WRITE DVI		...	
Sub Option	RF Mute Time		600ms	
	RS-232 Jack		Debug	
	Watchdog		OFF	
	WD COUNT		255	
	Dimm Type			
	LVDS FORMAT		PDP	
	Language_Arabic		xx	
	TOOLS Support		32	
	LNA Support		0	
	MediaPlay	DB	On with 5MB	
		MOVIE	chapterinmed	
		DLNA	ON	
		Play List	OFF	

Menu	Item		Data	Remark
	NETWORK Support		Ext-Wifi	
	Info Link Server Type		development	
	Info Link Country		None	
	TTX List			
	TTX Group			
	24Px4 Support		OFF	
	Power Indicator Support		OFF	
	BD Wise Support		OFF	
	Data Service Support		OFF	
	OTA Duration Test		OFF	
	Alternate Del		OFF	
	OTN Server Type		operating	
	OTN Test Server		OFF	
	OTN Support		ON	
	OTN Reset			
	OTN Duration		OFF	
	OTN Fail Test		OFF	
	IIC BUS STOP		OFF	
	Visual Test		Disable	
	Emergency Log Copy			
	Checksum		0x0000	
	View Log	Select Log Type	IR KEY	
		Log View		
		Delete Log		
	ColorSpace Support		RGB Type	
	Gemstar On/Off		OFF	
	WSS Support		OFF	
	PVR Support		OFF	
	CI Support		OFF	
	Eepron Reset			
	Spread Spectrum	LVDS Spread	ON	
		Period	40K	
		Amplitude	1.5	
		DDR Spread	1.0% Spread	
	DDR Margin	A CTRL_OFFSET_0_3	0x0	
		A CTRL_OFFSET_D	0x0	
		B CTRL_OFFSET_0_3	0x0	
		B CTRL_OFFSET_D	0x0	
	H.264 Margin		8	
	MPEG Margin		1000	

Menu	Item		Data	Remark
	Tuner Margin		10	
	SST	Y0 Ref	165	
		Y1 Ref	148	
		Y2 Ref	119	
		Y3 Ref	101	
		Y4 Ref	76	
		Y5 Ref	60	
		Y6 Ref	31	
		Y7 Ref	0	
		Cb0 Ref	128	
		Cb1 Ref	64	
		Cb2 Ref	148	
		Cb3 Ref	85	
		Cb4 Ref	171	
		Cb5 Ref	108	
		Cb6 Ref	194	
		Cb7 Ref	0	
		Cr0 Ref	128	
		Cr1 Ref	137	
		Cr2 Ref	64	
		Cr3 Ref	74	
		Cr4 Ref	181	
		Cr5 Ref	192	
		Cr6 Ref	118	
		Cr7 Ref	0	
	SST_TH	Y0 TH	20	
		Y1 TH	20	
		Y2 TH	20	
		Y3 TH	20	
		Y4 TH	20	
		Y5 TH	20	
		Y6 TH	20	
		Y7 TH	20	
		Cb0 TH	20	
		Cb1 TH	20	
		Cb2 TH	20	
		Cb3 TH	20	
		Cb4 TH	20	
		Cb5 TH	20	
		Cb6 TH	20	

Menu	Item	Data	Remark
	Cb7 TH	20	
	Cr0 TH	20	
	Cr1 TH	20	
	Cr2 TH	20	
	Cr3 TH	20	
	Cr4 TH	20	
	Cr5 TH	20	
	Cr6 TH	20	
	Cr7 TH	20	
	2nd mips	ON	
	2nd mips count	0	
	Region	xxx	
	PnP Language	xxx	
	PC Auto Ident	Enable	
	OTP Lock	...	
	Auto Power	MEMORY	
	KEY SENSITIVITY	56	1(Very Sensitive)~255(Insensitive)
	FANET	OFF	
	OTA Support	OFF	
	WIFI REGION	V	
	FKP Down		
PDP Option	LOGIC CONNECT	OFF	
	PIXEL SHIFT TEST	OFF	
	PANEL VERSION	DF	
	PANEL INCH	51FHD	
	PANEL TYPE	53	
	PANEL TEMPERATURE	40	
	LOGIC ID	A712	
	LOGIC SW VERSION	2010-11-20	
	LOGIC SW CHECKSUM	0xFC31	
	MRT	44	
	SAPC TIMER	ON	
	APC SPEED	SLOW	
	Real 100 Hz Support	OFF	
	XGA Resolution	OFF	
	PLG_SHOP	128	
Hotel Option	HOTEL MODE	ON	
	POWER ON CHANNEL EN	User Defined	
	POWER ON CHANNEL	3	

Menu	Item	Data	Remark
	CHANNEL TYPE	CATV	
	POWER ON VOLUME EN	User Defined	
	POWER ON VOLUME	10	
	MIN VOLUME	0	
	MAX VOLUME	100	
	PANEL BUTTON LOCK	Unlock	
	POWER ON SOURCE	TV	
	Picture Menu Lock	OFF	
	Music Mode AV	OFF	
	Music Mode PC	OFF	
	Music Mode Comp	OFF	
	Music Mode Backlight	OFF	
	Menu Display	ON	
	Power On Option	Last Option	
	Auto Source	OFF	
	Energy Saving	OFF	
	Clone TV to USB		
	Clone USB to TV		
	Setting Auto initialize	OFF	
	SIRCH Update Time	2:00 AM	
	MONITOR OUT CVBS	ON	
Shop Option	Shop Mode	OFF	
	Exhibition Mode	OFF	
Asia Option	TTX	OFF	
	China HD	OFF	
	NT Conversion	OFF	
	Sepco 120Hz	OFF	
	Unbalance	OFF	
	FMTransmitter Support	OFF	
	FMTransmitter Carrier	OFF	
	AF Level adjust	3	
	TX power Level	0	
	Mono Last Memory	OFF	
	H Shaking	OFF	
SOUND	High Devi	OFF	
	Carrier Mute	ON	
	Volume Curve	Type1	
	Speaker Delay Normal	50	
	Pilot Level High Thld	0x28h	
	Pilot Level Low Thld	0x10h	

Menu	Item	Data	Remark
	FM Prescale	0	
	AM Prescale	0	
	NICAM Prescale	0	
	Amp Volume	0xc7h	
	Amp Scale	0x82h	
	Woofer Type	1	
	Woofer Scale	0x7fh	
	Woofer Check Sum		
	Speaker EQ	ON	
	Amp Model	0	
	Speaker cut-off Freq	NTP7411	
	SPDIF PCM Gain	-9 dB	
	FM M Prescale	48	
	BTSC Mono Prescale	25	
	BTSC stereo Prescale	47	
	SAP Prescale	43	
	A2 Ident High Thld	31	
	A2 Ident Low Thld	2	
	Carrier2 Amp High Thld	4	
	Carrier2 Amp Low Thld	3	
	Carrier2 SNR High THR	16	
	Carrier2 SNR Low THR	80	
	Audio-IP Test	Ready	
	TruBass-Checksum	0x200190E2	
	PWM Mode	BD	
Config Option	Num of ATV	1	
	Num of DTV	1	
	Num of AV	1	
	Num of SVIDEO	0	
	Num of COMP	2	
	Num of HDMI	4	
	Num of PC	1	
	Num of SCART	0	
	Num of DVI	0	
	Num of OPTICAL Link	0	
	Num of MEDIA	1	
	Num of PANEL KEY	6	
	Num of USB Port	2	

Menu	Item	Data	Remark
	Num of HeadPhone	0	
	Num of RVU	0	
	MFT Offset	62.5	
	Select LCD/PDP	PDP	
	HDMI/DVI SEL	1	
	Indicator Led	OFF	
	Wall Mount	OFF	
	HV Flip	OFF	
	Num Of Display	2	
	DVI/HDMI SOUND	Auto	
	HDMI HOT PLUG	Disable	
	HOTPLUG SWITCHING	Boot	
	HOT PLUG DURATION	1200ms	
	CLK TERM DURATION	1200ms	
	HDMI FLT CNT SIG	100ms	
	HDMI FLT CNT LOS	100ms	
	UNSTABLE BAN CNT	3500ms	
	HDMI Err Cnt	1	
	HDMI ROBIN	ON	
	HDMI Callback	OFF	
	HDMI CTS Thld	8	
	HDMI CTS Cnt1	1	
	TMDS_EQ2_Boost	1	
	TMDS_EQ2_Gain	0	
	TMDS_PLL_Loop	3	
	TMDS_CPREG_BLEED	1	
	HDMI EQ	Auto	
	HDMI EDID wRITE Type	Separate	
	HDMI Switch	NONE	
	DVI SET TIME	300ms	
	Type Of PANEL KEY	PDPVertical	
	EcoSensor Support	ON	
	LEDMotionPlus Support	OFF	
	Natural Mode Support	OFF	

Menu	Item		Data	Remark
	All Share Support		ON	
	Relax Mode Support		OFF	
	DVI-I Support			
	Melfas Function Support			
	Light Level Support			
	H Write			
	HDMI Sync		DE	
	HeadPhone Port		A Out2	
SCC	SCC Mode		Dynamic	
	SCC ON/OFF		OFF	
	SCC Input Data	Hx	272	
		Hy	278	
		Lx	272	
		Ly	278	
	sSCC Const	sSCC Hx	550	
		sSCC Hy	566	
		sSCC Lx	598	
		sSCC Ly	550	
	pSCC Const	pSCC Hx	550	
		pSCC Hy	566	
		pSCC Lx	598	
		pSCC Ly	550	
	SCC Source Data		PBA	
	SWAP		PBA	

■ SVC

Menu	Item	Data	Remark
Test Pattern	Pattern Sel	...	
	LOGIC Pattern Sel	0	
	LOGIC Level Sel	255	
Panel Auto Setting		Failure	
PANEL DISPLAY TIME		2Hr	
LOGIC USB D/L		off	
Tuner Status			
T-CON USB Download		Failure	
MICOM UPGRADE		Off	
BT ADDRESS		e4e0c53197db	
BT UPGRADE			
SVC Reset			

■ Expert

Menu	Item	Data	Remark
N/D ADJ		OFF	
Source		...	

■ ADC/WB

Menu	Item	Data	Remark
ADC	AV Calibration		
	Comp Calibraion		
	PC Calibration		
	HDMI Calibration		
ADC Target	1st_AV_Low	64	
	1st_AV_High	880	
	1st_AV_Delta	2	
	1st_COMP_Y_Low	64	
	1st_COMP_Cb_Low	512	
	1st_COMP_Cr_Low	512	
	1st_COMP_Y_High	940	
	1st_COMP_Cb_High	512	
	1st_COMP_Cr_High	512	
	1st_COMP_Delta	2	
	1st_PC_Low	4	
	1st_PC_High	1004	

Menu	Item	Data	Remark
	1st_PC_Delta	2	
	2nd_ACH_Low	4	
	2nd_ACH_High	940	
	2nd_PC_Low	4	
	2nd_PC_High	940	
	2nd_Delta	2	
ADC Result	1st_Y_GH	258	
	1st_Y_GL	128	
	1st_Cb_BH		
	1st_Cb_BL		
	1st_Cr_RH		
	1st_Cr_RL		
	2nd_R_L	133	
	2nd_G_L	133	
	2nd_B_L	133	
	2nd_R_H	70	
	2nd_G_H	70	
	2nd_B_H	70	
White Balance	Sub Brightness	128	
	R-Offset	128	
	G-Offset	128	
	B-Offset	128	
	Sub Contrast	128	
	R-Gain	128	
	G-Gain	128	
	B-Gain	128	
	Movie R-Offset		
	Movie B-Offset		
	Movie R-Gain		
	Movie B-Gain		

■ Advanced

- Picture_2D

Menu	Item	Data	Remark
Sub Setting	Gamma	0.95	
	Natural Gamma	0	
	Pwm Max	100	
	PWM Min	0	
	Pwm Mid	0	
	Contrast Dimming	OFF	
	7.5 IRE NTSC	OFF	
	7.5 IRE Offset		
	Comp Phase	110	
	Led Peak OnOff	OFF	
	Dither Bypass	OFF	
	D Motion Light	On	
	Dynamic Contrast	On	
EPA Standard	Standard Contrast	100	
	Standard Brightness	45	
	Standard Sharpness	50	
	Standard Color	50	
	Standard Tint	0	
	Standard Backlight	10	
WB Movie	W/B Movie On/Off	OFF	
	Model	...	
	Color Tone	...	
	Msub Brightness	...	
	Msub Contrast	...	
	N_Rgain	...	
	N_Bgain	...	
	N_Roffset	...	
	N_boffset	...	
	W2_Rgain	...	
	W2_Bgain	...	
	W2_Roffset	...	
	W2_Boffset	...	
	Movie Contrast	...	
	Movie Bright	...	
	Movie Color	...	
	Movie Sharpness	...	
	Movie Tint	...	
	Movie Backlight	...	

Menu	Item	Data	Remark
	Movie Gamma	...	
	M_Sub_Gamma	...	
	HDMI Black Level	...	
WCE	WRHue	64	
	WRSat	16	
	WYHue	64	
	WYSat	16	
	WGHue	64	
	WGSat	16	
	WCHue	64	
	WCSat	16	
	WBHue	64	
	WBSat	16	
	WMHue	64	
	WMSat	16	
	ARHue	64	
	ARSat	16	
	AYHue	64	
	AYSat	16	
	AGHue	64	
	AGSat	16	
	ACHUE	64	
	ACSat	16	
	ABHue	64	
	ABSat	16	
	AMHue	64	
	AMSat	16	
VDEC	AGC mode	3	
	AGC manual gain	72	
	Ifcomptype	1	
	Ifcompsel	15	
	Saturain Cb/Cr	145	
	Secam Filter Sel	0	
	RGB Delay	150	
	Peaking Gain	0	
	Coring Gain	3	
	Chroma Peak	10	
	2D V Peaking	0	
	2D H Peaking	0	
	2D Peaking Gain	0	

Menu	Item	Data	Remark
Sharpness	Post_H1	20	
	Post_H2	26	
	Post_H3	20	
	Post_H4	15	
	Post_v1	20	
	Post_v2	18	
	Post_H2 Overshoot	128	
	Post_H2 Undershoot	128	
	Post_H3 Overshoot	128	
	Post_H3 undershoot	128	
	Core Gain1	2	
	CoreGain2	3	
	D_Tot_Gain	24	
	S_Tot_Gain	24	
ColorMapping	A_Red_R	60	
	A_Red_G	0	
	A_Red_B	0	
	A_Green_R	67	
	A_Green_G	100	
	A_Green_B	0	
	A_Blue_R	0	
	A_Blue_G	49	
	A_Blue_B	100	
	A_Yellow_R	100	
	A_Yellow_G	100	
	A_Yellow_B	0	
	A_Cyan_R	0	
	A_Cyan_G	46	
	A_Cyan_B	100	
	A_Magenta_R	27	
	A_Magenta_G	0	
	A_Magenta_B	67	
	N_Red_R	50	
	N_Red_G	0	
	N_Red_B	0	
	N_Green_R	0	
	N_Green_G	50	
	N_Green_B	0	
	N_Blue_R	0	
	N_Blue_G	0	

Menu	Item	Data	Remark
	N_Blue_B	50	
	N_Yellow_R	50	
	N_Yellow_G	50	
	N_Yellow_B	0	
	N_Cyan_R	0	
	N_Cyan_G	50	
	N_Cyan_B	50	
	N_Magenta_R	50	
	N_Magenta_G	0	
	N_Magenta_B	50	
Enhance	BLE_Gain	22	
	D Sub Color	80	
	D Skin Hue	84	
	D Skin Sat	18	
	S Sub Color	80	
	S Skin Hue	72	
	S Skin Sat	16	
	M Sub Color	55	
	M Skin Hue	64	
	M Skin Sat	16	
	Sub Tint	45	
	CE_Normal_Left_Gain	35	
	CE_Normal_Right_Gain	20	
	CE_Normal_Offset	-10	
	CE_Special_Left_Gain	15	
	CE_Special_Right_Gain	10	
	CE_Special_Offset	-50	
	CE_S_Left_gain	10	
	CE_S_Right_Gain	40	
	CE_S_Normal_Offset	-2	
LNA_Plus	Synctip_Noise	102	
	dB01_th	3	
	dB12_th	4	
	dB23_th	6	
	dB34_th	8	
	dB45_th	10	
	dB56_th	12	
	dB67_th	15	
	dB78_th	28	
	LNA_Plus_Yfiller	3	

Menu	Item	Data	Remark
YC_Delay	RF PAL BG	10	
	RF PAL DK	11	
	RF PAL I	13	
	RF PAL M	6	
	RF PAL n	11	
	RF SECAM BG	5	
	RF SECAM DK	8	
	RF SECAM L	8	
	RF NT 358	14	
	RF NT 443	8	
	AV PAL	9	
	AV PAL M	7	
	AV PAL N	9	
	AV SECAM	9	
	AV NT 358	10	
	AV NT 443	4	
	AV Pal 60	6	
	SCART PAL	9	
	SCART PAL M	9	
	SCART PAL N	9	
	SCART SECAM	4	
	SCART NT 358	10	
	SCART NT 443	4	
	SCART PAL 60	6	
	SCART RGB PAL	8	
	SCART RGB PAL M	8	
	SCART RGB PAL N	8	
	SCART RGB SECAM	8	
	SCARTRGB NT 358	8	
	SCARTRGB NT 443	8	
	SCARTRGB PAL 60	8	
Picture Update			

- Picture_3D

Menu	Item	Data	Remark
Sub Setting_3D	3D_Gamma	0.95	
	3D_Natural Gamma	0	
	3D_Pwm Max	100	
	3D_PWM Min	0	
	3D_Pwm Mid	0	
	3D_Contrast Dimming	OFF	
	3D_Led Peak OnOff	OFF	
	3D_Dither Bypass	OFF	
	3D_D Motion Light	OFF	
	3D_Dynamic Contrast	OFF	
EPA_3D	3D Contrast	100	
	3D Brightness	45	
	3D Standard Sharpness	50	
	3D Standard Color	50	
	3D Standard Tint	0	
	3D Standard Backlight	7	
WB Movie_3D	3D_W/B Movie On/Off	OFF	
	3D_Model	...	
	3D_Color Tone	...	
	3D_Msub Brightness	...	
	3D_Msub Contrast	...	
	3D_C_Rgain	...	
	3D_C_Bgain	...	
	3D_C_Roffset	...	
	3D_C_boffset	...	
	3D_N_Rgain	...	
	3D_N_Bgain	...	
	3D_N_Roffset	...	
	3D_n_Boffset	...	
	3D_W2_Rgain		
	3D_W2_Bgain		
	3D_W2_Roffset		
	3D_W2_Boffset		
	3D_Movie Contrast	...	

Menu	Item	Data	Remark
	3D_Movie Bright	...	
	3D_Movie Color	...	
	3D_Movie Sharpness	...	
	3D_Movie Tint	...	
	3D_Movie Backlight	...	
	3D_Movie Gamma	...	
	3D_M_Sub_Gamma	...	
	3D_HDMI Black Level	...	
	3D_Sub Contrast	128	
	3D_Sub_Brightness	128	
WCE_3D	3D_WRHue	64	
	3D_WRSat	17	
	3D_WYHue	72	
	3D_WYSat	17	
	3D_WGHue	47	
	3D_WGSat	17	
	3D_WCHue	58	
	3D_WCSat	17	
	3D_WBHue	54	
	3D_WBSat	18	
	3D_WMHue	64	
	3D_WMSat	17	
	3D_ARHue	64	
	3D_ARSat	16	
	3D_AYHue	64	
	3D_AYSat	16	
	3D_AGHue	64	
	3D_AGSat	16	
	3D_ACHUE	64	
	3D_ACSat	16	
	3D_ABHue	64	
	3D_ABSat	16	
	3D_AMHue	64	
	3D_AMSat	16	
ColorMapping_3D	3D_A_Red_R	50	
	3D_A_Red_G	0	
	3D_A_Red_B	0	
	3D_A_Green_R	0	

Menu	Item	Data	Remark
	3D_A_Green_G	50	
	3D_A_Green_B	0	
	3D_A_Blue_R	0	
	3D_A_Blue_G	0	
	3D_A_Blue_B	50	
	3D_A_Yellow_R	50	
	3D_A_Yellow_G	50	
	3D_A_Yellow_B	0	
	3D_A_Cyan_R	0	
	3D_A_Cyan_G	50	
	3D_A_Cyan_B	50	
	3D_A_Magenta_R	50	
	3D_A_Magenta_G	0	
	3D_A_Magenta_B	50	
	3D_N_Red_R	50	
	3D_N_Red_G	0	
	3D_N_Red_B	0	
	3D_N_Green_R	0	
	3D_N_Green_G	50	
	3D_N_Green_B	0	
	3D_N_Blue_R	0	
	3D_N_Blue_G	0	
	3D_N_Blue_B	50	
	3D_N_Yellow_R	50	
	3D_N_Yellow_G	50	
	3D_N_Yellow_B	0	
	3D_N_Cyan_R	0	
	3D_N_Cyan_G	50	
	3D_N_Cyan_B	50	
	3D_N_Magenta_R	50	
	3D_N_Magenta_G	0	
	3D_N_Magenta_B	50	
Sharpness_3D	3D_Post_H1	16	
	3D_Post_H2	10	
	3D_Post_H3	10	
	3D_Post_H4	10	
	3D_Post_v1	20	
	3D_Post_v2	14	
	3D_Post_H2 Overshoot	32	

Menu	Item		Data	Remark
	3D_Post_H2 Undershoot		32	
	3D_Post_H3 Overshoot		16	
	3D_Post_H3 undershoot		16	
	3D_Core Gain1		1	
	3D_CoreGain2		2	
	3D_D_Tot_Gain		28	
	3D_S_Tot_Gain		28	
Enhance_3D	3D_BLE_Gain		22	
	3D_D Sub Color		65	
	3D_D Skin Hue		100	
	3D_D Skin Sat		18	
	3D_S Sub Color		65	
	3D_S Skin Hue		72	
	3D_S Skin Sat		16	
	3D_M Sub Color		55	
	3D_M Skin Hue		64	
	3D_M Skin Sat		16	
	3D_Sub Tint		50	
	3D_CE_Normal_Left_Gain		20	
	3D_CE_Normal_Right_Gain		30	
	3D_CE_Normal_Offset		-10	
	3D_CE_Special_Left_Gain		15	
	3D_CE_Special_Right_Gain		10	
	3D_CE_Special_Offset		-50	
	3D_CE_S_Left_gain		10	
	3D_CE_S_Right_Gain		40	
	3D_CE_S_Normal_Offset		-2	
3D Setting	LED_BT_IR	BTPairDis_Ho	2	
		BTPairDis_sh	25	
		BTTransDis	10	
		BTSlaveDelay48	0	
		BTSlaveDelay50	0	
		BTSlaveDelay60	0	
		BTEmiDel_48	0	
		BTEmiDel_50	0	
		BTEmiDel_60	0	
		BTGlsDUTY	100	
		IREmiDel_48	0	

Menu	Item		Data	Remark
		IREmiDel_50	0	
		IREmiDel_60	0	
		IREmiMask	1	
		IRMASKPRD	1	
		IREmiNum	1	
		SlavDelay48	0	
		SlavDelay50	0	
		SlavDelay60	0	
	PDP_BT_IR	BTPairDis_Ho_PDP	2	
		BTPairDis_sh_PDP	25	
		BTTransDis_PDP	10	
		BTSlaveDelay48_D	0	
		BTSlaveDelay50_D	0	
		BTSlaveDelay60_D	0	
		BTGlsDUTY_D	100	
		BTEmiDel_48_S	0	
		BTEmiDel_50_S	0	
		BTEmiDel_60_S	0	
		BTGlsDUTY_S	100	
		IREmiDel_48_R	0	
		IREmiDel_50_R	0	
		IREmiDel_60_R	0	
		BTGlsDUTY_R	100	
		BTEmiDel_48_M	0	
		BTEmiDel_50_M	0	
		BTEmiDel_60_M	0	
		BTGlsDUTY_M	100	
		IREmiMask_PDP	1	
		IRMASKPRD_PDP	1	
		IREmiNum_PDP	1	
		SlavDelay48_PDP	0	
		SlavDelay50_PDP	0	
		SlavDelay60_PDP	0	
	Duty	PDuty192	25	
		PDuty200	25	
		PDuty240_Dyn	25	
		PDuty210_Mov	25	

Menu	Item		Data	Remark	
	Dcc	Glmit_LBT0	88		
		Glmit_LBT1	89		
		Glmit_LBT2	90		
		Glmit_LBT3	91		
		Glmit_LLT0	95		
		Glmit_LLT1	96		
		Glmit_LLT2	97		
		Glmit_LLT3	98		
		DCCX1	0		
		DCCX2	0		
		DCCX3	0		
		DCCY1	0		
		DCCY2	0		
		DCCH1	0		
		DCCH2	0		
		DCCH3	0		
		DCCV1	0		
		DCCV2	0		
		Temp Read	0		
		Time_HOT	120		
		Time_Cold	120		
		Temp_ST	16		
		Temp_TH	40		
		delta	5		
		Effect	Depth_Min	10	
			Depth_Max	100	
	Viewp_Min_2D3D		64		
	Viewp_Max_2D3D		192		
	Viewpoint_Min		64		
	viewpoint_Max		192		
	Debug	Debug	OFF		
		DccMode	0		
		DccSele0_0	0		
		DccSele0_1	0		
		DccSele0_2	0		
		DccSele0_3	0		
		DccSele0_4	0		
		DccSele0_5	0		
		DccSele0_6	0		
		DccSele0_7	0		

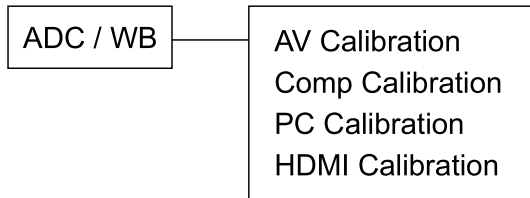
Menu	Item	Data	Remark
	PosiSel_0_0	0	
	PosiSel_0_1	0	
	PosiSel_0_2	0	
	PosiSel_0_3	0	
	PosiSel_0_4	0	
	PosiSel_0_5	0	
	PosiSel_0_6	0	
	PosiSel_0_7	0	
	PosiSel_0_8	0	
	PosiSel_0_9	0	
	PosiSel_0_10	0	
	PosiSel_0_11	0	
	Bypass	OFF	

4.3. Service Adjustment

- You must perform Calibration in the Lattice Pattern before adjusting the White Balance.

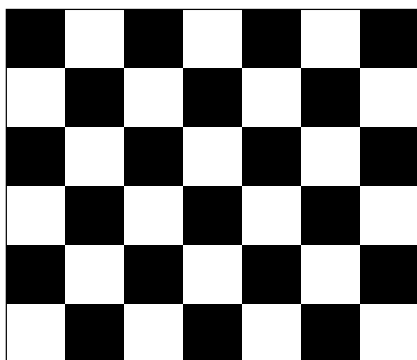
■ White Balance - Calibration

- Factory



■ Color Calibration

- Adjust spec.
 - 1) Source : HDMI
 - 2) Setting Mode : 1280*720@60Hz
 - 3) Pattern : Pattern #24 (Chess Pattern)



- 4) Use Equipment : CA210 & Master MSPG925 Generator

Use other equipment only after comparing The result with that of The Master equipment.

Input mode	Calibration	Pattern
CVBS IN (Model_#1)	Perform in NTSC/PAL B&W Pattern #24	Lattice
Component IN (Model_#6)	Perform in 720p B&W Pattern #24	Lattice
PC Analog IN (Model_#21)	Perform in VESA XGA (1024x768) B&W Pattern #24	Lattice
HDMI IN	Perform in 720p B&W Pattern #24	Lattice

- Method of Color Calibration (AV)
 - 1) Apply the NTSC/PAL Lattice (N0. 3) pattern signal to the AV IN 1 port.
 - 2) Press the Source key to switch to “AV1” mode.
 - 3) Enter Service mode.
 - 4) Select the “ADC” menu.
 - 5) Select the “AV Calibration” menu.
 - 6) In “AV Calibration Off” status, press the “▶” key to perform Calibration.
 - 7) When Calibration is complete, it returns to the high-level menu.
 - 8) You can see the change of the “AV Calibration” status from Failure to Success.
- Method of Color Calibration (Component)
 - 1) Apply the 720p Lattice (N0. 6) pattern signal to the Component IN 1 port.
 - 2) Press the Source key to switch to “Component1” mode.
 - 3) Enter Service mode.
 - 4) Select the “ADC” menu.
 - 5) Select the “Comp Calibration” menu.
 - 6) In “Comp Calibration Off” status, press the “▶” key to perform Calibration.
 - 7) When Calibration is complete, it returns to the high-level menu.
 - 8) You can see the change of the “Comp Calibration” status from Failure to Success.
- Method of Color Calibration (PC)
 - 1) Apply the VESA XGA Lattice (N0. 21) pattern signal to the PC IN port.
 - 2) Press the Source key to switch to “PC” mode.
 - 3) Enter Service mode.
 - 4) Select the “ADC” menu.
 - 5) Select the “PC Calibration” menu.
 - 6) In “PC Calibration Off” status, press the “▶” key to perform Calibration.
 - 7) When Calibration is complete, it returns to the high-level menu.
 - 8) You can see the change of the “PC Calibration” status from Failure to Success.

- Method of Color Calibration (HDMI)

- 1) Apply the 720p Lattice (N0. 6) pattern signal to the HDMI1/DVI IN port.
- 2) Press the Source key to switch to “HDMI1” mode.
- 3) Enter Service mode.
- 4) Select the “ADC” menu.
- 5) Select the “HDMI Calibration” menu.
- 6) In “HDMI Calibration Off” status, press the “▶” key to perform Calibration.
- 7) When Calibration is complete, it returns to the high-level menu.
- 8) You can see the change of the “HDMI Calibration” status from Failure to Success.

■ White Balance - Adjustment

Factory	(Low light)	(High light)
ADC / WB - White Balance	Sub Bright R offset G offset B offset	Sub Contrast R gain G gain B gain

4.4. Software Upgrade

Samsung may offer upgrades for the TV's firmware in the future.

These upgrades can be performed via the TV when it is connected to the Internet, or by downloading the new firmware from samsung.com to a USB memory device.

- Alternative Software (Backup) shows The previous version that will be replaced.
- Software is represented as 'Year/Month/Day_Version'.
The more recent the date, the newer the software version.
Installing the latest version is recommended.

■ By USB

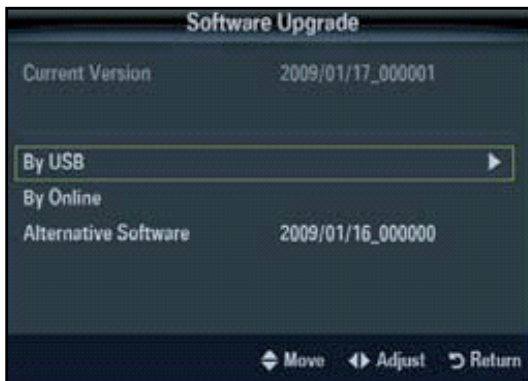


Insert a USB drive containing the firmware upgrade downloaded from samsung.com into the TV. Please be careful to not disconnect the power or remove the USB drive while upgrades are being applied.

The TV will turn off and turn on automatically after completing the firmware upgrade. Please check the firmware version after the upgrades are complete (the new version will have a higher number than the older version). have a higher number than the older version) made will return to their default (factory) settings.

We recommend you write down your settings so that you can easily reset them after the upgrade.

■ By Online



Upgrades the software using the Internet.

- First, configure your network. For detailed procedures on using the Network Setting.

Refer to the 'Setting the Network' instructions.

- If The internet connection doesn't operate properly, connection can be broken, please retry downloading.

If the problem still happens, download by USB and upgrade.

■ Alternative Software (Backup)

If there is an issue with the new firmware and it is affecting operation, you can change the software to the previous.

- If Software was changed, existing Software is displayed.
- You can change current Software to Alternative Software by 'Alternative Software'.